UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/222,340	12/28/1998	WILLIAM F. TERRELL	82771.P279	3304

8791 7590 04/10/2008

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER	
MANIWANG, JOSEPH R	
ART UNIT	PAPER NUMBER
2144	

MAIL DATE	DELIVERY MODE
04/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/222,340
Filing Date: December 28, 1998
Appellant(s): TERRELL ET AL.

Thinh V. Nguyen (Reg. No. 42,034)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 01/11/08 appealing from the Office action mailed 04/19/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,341,130	LAKSHMAN ET AL.	1-2002
6,651,101	GAI ET AL.	11-2003
6,253,321	NIKANDER ET AL.	6-2001

Barzilai et al., "Design and Implementaion of an RSVP-Based Quality of Service Architecture for an Integrated Services Internet", 1998

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. Claims 1-11, 13, 14, and 16-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakshman et al. (U.S. Patent No. 6,341,130), hereinafter referred to as Lakshman, in view of Barzilai et al. ("Design and Implementation of an RSVP-Based Quality of Service Architecture for an Integrated Services Internet", 1998), hereinafter referred to as Barzilai, and in further view of Gai et al. (U.S. Pat. No. 6,651,101), hereinafter referred to as Gai.

2. Regarding claim 1, Lakshman discloses the invention substantially as claimed. Lakshman discloses *an apparatus adapted to facilitate communications between a*

client device and a remote device, comprising a network interface including (i) filters including at least one filter being triggered to denote when a received packet satisfies filter criteria corresponding to an admission policy (filter rules) *related to differentiated service levels and associated with the at least one filter* [see Lakshman, Col. 1, lines 53-67, Col. 2, lines 1-34, Col. 3, lines 53-55, Col. 6, lines 15-19, Col. 9, lines 20-29] *and (ii) a classifier, communicatively coupled to the filters, to classify and mark one of the service levels associates with the received data packet in response to satisfying the filter criteria associated with the at least one filter* [see Lakshman, Col. 2, lines 9-14, Col. 5, lines 54-67]*; and a controller* [see Lakshman, Figure, 1, item 245]. However, Lakshman does not explicitly disclose a controller coupled to the network interface, to dynamically create and remove the filters controlling access to the different service levels based, at least in part, on an admission profile of the admission policy.

3. In the same field of endeavor, Barzilai discloses (e.g., a system for traffic policing, traffic shaping and buffer management for QOS support). Barzilai discloses and a controller coupled to the network interface, to dynamically create and remove the filters controlling access to the different service levels based, at least in part, on an admissions profile (Barzilai teaches the QOS manager functions a control plane component primarily responsible for the creation, modification, and removal of reservation filters associated with different flows as well as admission control. Also, Barzilai teaches the improvement of statically compiled packet filter by utilizing a general classifier for real-time packet forwarding and packet filters that provide general and flexible classification of incoming packets to application endpoints and dynamic

code generation techniques that are applied to realized very efficient packet filters), [see Barzilai, page 400, 2nd column, 4th paragraph, page 411, 2nd column, 2nd paragraph].

4. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Barzilai teaches of a system for traffic policing, traffic shaping and buffer management for QOS support with the teachings of Lakshman, for the purpose of providing a system that supports integrated services on the Internet, network routers as well as end hosts in order to further enhance classification of traffic and to handle data packets from different flows as well as having a system that fully supports TCP/IP stack [see Barzilai, page 397, column 2]. However, the specifics of dynamic code generation in regards to dynamic filtering are not explicitly disclosed by Lakeshman-Barzilai.

5. In the same field of endeavor, Gai discloses a method and system for identifying specific traffic flows and for applying quality of service treatments to such flows (e.g., dynamic filtering) [see abstract, sections 1, 2.1 and 3.1].

6. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Gai's teachings of dynamic code generation for the creation of dynamic filtering with the teachings of Lakshman-Barzalai, for the purpose of providing an improvement on traditional packet filtering, through the use of dynamic code generation [see Gai, abstract]. Barzalai provides motivation to combine by stating the uses of dynamic code generation techniques that are applied provide for very efficient packet filtering [see Barzalia, pg. 411]. By this rationale claim 1 is rejected.

7. Regarding claim 2, Lakshman-Barzilai and Gai further discloses wherein the at least one filter, when triggered, initiate an admission control decision preventing allocation of service level resources which are not yet required or authorized [see Barzilai, page 410, 2nd paragraph]. The same motivation that was utilized in the combination of claim 1 applies equally as well to claim 2. By this rationale claim 2 is rejected.

8. Regarding claim 3, Lakshman-Barzilai and Gai further discloses wherein each filter is triggered by information contained within received the data packet (Barzilai teaches that the address is used during data transfer to efficiently identify the reservation structure to use for policing and shaping traffic on a particular data socket), [see Barzilai, Page 404, 1st Col., 2nd paragraph]. The same motivation that was utilized in the combination of claims 1 and 2 applies equally as well to claim 3. By this rationale claim 3 is rejected.

9. Regarding claim 4, Lakshman-Barzilai and Gai further discloses *wherein each filter is triggered by one or both of packet source information and packet destination information* [see Lakshman, Col. 2, lines 10-14]. By this rationale claim 4 is rejected.

10. Regarding claim 5, Lakshman-Barzilai and Gai discloses the invention substantially as claimed. However, Lakshman-Barzilai does not explicitly disclose wherein the admission profile is stored in a communicatively coupled remote device.

11. In the same field of endeavor, Gai discloses (e.g., identifying network data traffic flows and for applying quality of service treatments to the flows). Gai discloses wherein

the admission profile is stored in a communicatively coupled remote device [see Gai, Col. 12, lines 25-50 and Col. 15, lines 59-64].

12. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Gai's teachings of identifying network data traffic flows and for applying quality of service treatments to the flows with the teachings of Lakshman-Barzilai, for the purpose of obtaining traffic policies to be applied to identified traffic flows [see Gai, Col. 4, lines 26-65]. By this rationale claim 5 is rejected.

13. Regarding claim 6, Lakshman-Barzilai and Gai further discloses *wherein the communicatively coupled remote device is a bandwidth broker or other generic policy server* [see Gai, Figure 2, item 216]. The same motivation that was utilized in the combination of claim 5 applies equally as well to claim 6. By this rationale claim 6 is rejected.

14. Regarding claim 7, Lakshman-Barzilai and Gai further discloses *wherein the admission profile is available locally within the apparatus* [see Lakshman, Col. 15, line 13]. By this rationale claim 7 is rejected.

15. Regarding claim 8, Lakshman-Barzilai and Gai further discloses wherein the controller establishes an ingress profile in response to detecting an associated trigger event, wherein the ingress profile modifies the received data packet adhering to the filter criteria to denote a particular service level, in accordance with the admissions profile [see Barzilai, page 406, 2nd]. The same motivation that was utilized in the combination of claim 1 applies equally as well to claim 8. By this rationale claim 8 is rejected.

16. Regarding claim 9, Lakshman-Barzilai and Gai further discloses wherein the controller removes ingress profiles when data packets adhering to the filter criteria are no longer received, liberating apparatus resources [see Barzilai, page 406, 2nd column, 4th paragraph]. The same motivation that was utilized in the combination of claims 1 and 8 applies equally as well to claim 9. By this rationale claim 9 is rejected.

17. Regarding claim 10, Lakshman-Barzilai and Gai further discloses *wherein the controller removes ingress profiles after a predetermined period of time, liberating apparatus resources* [Barzilai, page 410, 1st column, 1st paragraph-3rd paragraph]. The same motivation that was utilized in the combination of claims 1 and 8 applies equally as well to claim 10. By this rationale claim 10 is rejected.

18. Regarding claim 11, Lakshman-Barzilai and Gai further discloses *wherein the controller removes at least one of the filters in accordance with a network administration policy* [see Barzilai, page 410, 1st column, paragraph 1, Figure 9]. The same motivation that was utilized in the combination of claim 1 applies equally as well to claim 11. By this rationale claim 11 is rejected.

19. Regarding claim 13, Lakshman-Barzilai and Gai further discloses a method for controlling provisions of differentiated service levels in a data network [see Barzilai, abstract], the method comprising (a) installing a filter on a network edge device to provide a trigger notification upon detecting data packets adhering to filter criteria, [see rejection of claim 1, supra] (b) determining whether a received data packet satisfies the filter criteria, the filter criteria corresponding to an admission policy related to the differentiated service levels [see rejection of claim 1, supra]; and (c) issuing a command

by a bandwidth broker to a controller of the network edge device to dynamically install or remove a filter in response to determining whether the received data packets satisfies the filter criteria [see rejection of claim 1, supra]. The same motivation that was utilized in the combination of claim 1 applies equally as well to claim 13. By this rationale claim 13 is rejected.

20. Regarding claim 14, Lakshman-Barzilai and Gai further discloses (d) marking the received data packets adhering to the filter criteria according to a subscribed service level (Barzilai teaches that the QOS manager tags the data path with a session handle to enable handling of data packets commensurate with their service requirements), [see Barzilai, page 398, 1st column, 1st paragraph]. The same motivation that was utilized in the combination of claims 1 and 13 applies equally as well to claim 14. By this rationale claim 14 is rejected.

21. Regarding claim 16, Lakshman-Barzilai, Gai discloses wherein the marking of the received data packet includes setting a logic value of a bit in a Type of Service (ToS) field of a header of the data packet [see Gai, Col. 3, lines 1-32, Col. 16, lines 21-48 and Col. 20, lines 25-31]. The same motivation that was utilized in the combination of claim 5 applies equally as well to claim 16. By this rationale claim 16 is rejected.

22. Regarding claim 17, Lakshman-Barzilai and Gai further discloses (e) identifying and marking the received data packets with routing information in accordance with the subscribed service level [see rejection of claim 14, supra]. The same motivation that was utilized in the combination of claims 1, 13 and 14 applies equally as well to claim 17. By this rationale claim 17 is rejected.

23. Regarding claim 18, Lakshman-Barzilai and Gai further discloses (f) placing the data packets in a proper format for transmission (Barzilai teaches TCP formats packets into a acceptable form for transmission to the network), [see Barzilai, page 407, 2nd column, 2nd paragraph]. The same motivation that was utilized in the combination of claims 1, 13, 14, and 17 applies equally as well to claim 18. By this rationale claim 18 is rejected.

24. Regarding claim 19, Lakshman-Barzilai, Gai discloses wherein the classifier marks a Type of Service (ToS) field of the received data packet to denote a level of service for transmission of the data packet [see Gai, Col. 3, lines 1-32, Col. 16, lines 21-48 and Col. 20, lines 25-31]. The same motivation that was utilized in the combination of claim 5 applies equally as well to claim 19. By this rationale claim 19 is rejected.

25. Regarding claim 20, Lakshman-Barzilai and Gai further discloses wherein the controller further dynamically controls access to at least one classifier profile in accordance with the admission profile [see Barzilai, page 411, 2nd column, 2nd paragraph]. The same motivation that was utilized in the combination of claims 1 and 13 applies equally as well to claim 20. By this rationale claim 20 is rejected.

26. Regarding claim 21, Lakshman-Barzilai and Gai further discloses an apparatus adapted to facilitate communications between a client device and a remote device [see rejection of claim 1, supra], comprising: filter means for controlling access to different service levels [see rejection of claim 1, supra]; means for classifying and marking one of the service levels associated with the received data packet in response to satisfying filter criteria associates with the filter means [see rejection of claim 1, supra]; and control

means for dynamically creating and removing a portion of the filter means based at least in part on an admission profile [see rejection of claim 1, supra]. The same motivation that was utilized in the combination of claim 1 applies equally as well to claim 21. By this rationale claim 21 is rejected.

27. Regarding claim 22, Lakshman-Barzilai, Gai further discloses *wherein the admissions profile is stored in a communicatively coupled remote device* [see Gai, Col. 12, lines 25-50]. The same motivation that was utilized in the combination of claim 5 applies equally as well to claim 22. By this rationale claim 22 is rejected.

28. Regarding claim 23, Lakshman-Barzilai, Gai further discloses *wherein the communicatively coupled remote device is a bandwidth broker or other generic policy server* [see Gai, Figure 2, item 216]. The same motivation that was utilized in the combination of claim 5 applies equally as well to claim 23. By this rationale claim 23 is rejected.

29. Regarding claim 24, Lakshman-Barzilai and Gai further discloses *wherein the filter means comprises a plurality of filters* [see rejection of claims 1 and 21, supra]. By this rationale claim 24 is rejected.

30. Regarding claim 25, Lakshman-Barzilai and Gai further discloses *wherein the control means removes at least one of the filters in accordance with a network administration policy* [see Barzilai, page 400, 2nd column, 4th paragraph]. The same motivation that was utilized in the combination of claims 1 and 24 applies equally as well to claim 25. By this rationale claim 25 is rejected.

31. Claims 12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakshman-Barzilai and Gai as applied to claims 1-11, 13, 14, and 16-25 above, and further in view of in view of what was well known to the ordinary artisan in the networking art at the time the invention was made.

32. Lakshman-Barzilai and Gai does not specifically disclose wherein the control means removes at least one of the filters based, at least in part, on time-of-day. The Examiner takes Official Notice (MPEP 2144.03) that a network administrator having the capability to remove filters base on an expiration or time of day is well known in the networking art at the time the invention.

33. It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the provision for removing filters based in part on the time-of-day into the system suggested by Lakshman/Barzilai/Gai as such a provision was well-known and would have merely been trying another known solution with predictable results. As the combination of teachings suggests the dynamic creation/removal of filters based on general criteria, using the time-of-day as such a criteria would have been a simple matter of substitution.

(10) Response to Argument

Appellant argues in substance that:

Issue 1: Lakshman does not disclose "filters including at least one filter being triggered to denote when a received packet satisfies filter criteria corresponding to an admission policy (filter rules) related to differentiated service levels".

Appellant asserts that the filter rules are not the claimed "admission policy". Examiner disagrees. It is first noted that the "admission policy" is broadly recited in the claims, and at most is required to supply the "filter criteria" used for triggering the filtering of a packet (e.g., "one filter being triggered to denote when a received packet satisfies filter criteria corresponding to an admission policy", claim 1, emphasis added). Lakshman is directed to packet filtering (Abstract), and clearly discloses the use of "filter rules" that "specify, for example, that received packets with fields specifying that a particular destination address should or should not be forwarded through specific output links, or that some other specific action should be taken before routing such received packets" (column 2, lines 15-43). In other words, the filter rules of Lakshman provide filter criteria used in the processing received packets, which reads on the claimed limitation as presented. Furthermore, although Appellant asserts that "The filter merely performs a point-location in a multi-dimensional space" and that "Point-location is not related to differentiated service levels", Examiner submits that the filtering concepts of Lakshman were clearly disclosed within the context of differentiated service levels (column 1, lines 54-64). Finally, while Appellant asserts that Lakshman's filters are not dynamically created or removed, such an assertion amounts to a piecemeal analysis of the references. As detailed above, Barzilai is relied upon for teaching this aspect of the claims.

Issue 2: "Barzilai merely discloses a session handle, not a classifier to classify and mark one of the differentiated service levels".

In response to Appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). It is noted that Barzilai is relied upon in the above rejection for a different limitation in the claims. Additionally, Lakshman clearly teaches a classifier as claimed ("FIG. 11 shows a classification processor 1050 that receives the incoming packet", column 14, lines 13-30).

Issue 3: "Barzilai merely discloses creation, modification, and removal of reservations associated with different flows, not dynamically create and remove the filters controlling access to the different service levels".

Appellant's argument regarding this point amounts to the idea that Barzilai does not teach the dynamic creation/removal of filters. However, Examiner submits that Barzilai clearly suggests an improvement over prior art static packet filters by using dynamically generated filters that "provide general and flexible classification of incoming packets" (p. 411, column 2, 2nd paragraph). Although Appellant argues that "these filters do not have criteria corresponding to an admission policy related to differentiated service levels", Examiner again submits that this is a piecemeal analysis of the prior art,

and that filter criteria associated with an admission policy is taught by Lakshman as detailed above regarding Issue 1.

Issue 4: "Gai merely discloses applying the prescribed policy or service treatments to the given traffic flow" and not "dynamic filtering".

Appellant's argument is generally that the policy/service treatment applied to a flow in Gai is not equivalent to a filter, and is not dynamically created/removed. However, Examiner submits that the claimed "filter" can be reasonably understood as a set of rules (or "criteria") applied to a flow of traffic (i.e., "received packets"). Accordingly, the applied policy/service treatment of Gai clearly reads on such a limitation. Furthermore, Appellant's assertion that Gai lacks dynamic creation/removal of filters is again piecemeal analysis of the art. Examiner submits that Lakshman-Barzilai teaches dynamic creation/removal of filters as argued above.

Issue 5: the Examiner misapplied Official Notice in rejecting claims 12 and 26.

In response to Appellant's traversal of this rejection, Examiner hereby provides documentary evidence in support of the Official Notice taken. Examiner submits that Nikander et al. (U.S. Pat. No. 6,253,321) discloses that dynamically removing a filter based on time of day was well known in the art at the time of invention. Nikander disclosed creating and expiring (i.e., removing based on time of day) packet filters as claimed ("the IPSEC engine must deal with security association creation and expiration", column 4, lines 24-53; "Cell 406 includes the expiration time", column 7,

lines 4-22; "During the application of the filter code, the validity of the information stored in the IPSEC engine is also checked in block 503 for possible security association lifetime expirations", column 7, lines 39-67). The teachings of Nikander are easily applicable to Lakshman/Barzilai/Gai, as they are similarly directed to packet filtering using dynamic filters (Abstract). Thus, removal of a filter based on time-of-day in a dynamic packet filtering system was well known in the prior art of record, and claims 12 and 26 are rejected accordingly.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Joseph R Maniwang/

Examiner, Art Unit 2144

Joseph Maniwang

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2144

Conferees:

/William C. Vaughn, Jr./ Supervisory Patent Examiner, Art Unit 2144

/John Follansbee/

Supervisory Patent Examiner, Art Unit 2151